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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,890	09/25/2001	Andrew E. Phelps	2070.005200/JAP P6768	9233

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EXAMINER	
LOHN, JOSHUA A	

ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/963,890	PHELPS ET AL.	
	Examiner	Art Unit	
	Joshua A Lohn	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22 and 24-27* is/are rejected.

7)☒ Claim(s) *23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED FIRST NON-FINAL ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3-6, 12, 15, and 16 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-6, 10, 13, and 14 of copending Application No. 09/963891. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons stated below.

Claim 1 of the copending application includes all of the limitations in claim 1 of the instant application. With regard to the additional limitations in claim 1 of the copending application consisting of "including a plurality of system domains" and "leaving the unaffected system domains configured in the first mode; and operating the affected system domains in the second mode and the unaffected system domains in the first mode", which are not included in claim 1 of the instant application, the omission of these limitations in claim 1 of the instant application is an obvious expedient since the remaining limitations of claim 1 of the copending application perform the same function as the limitations in claim 1 of the instant application (*In re Karlson*, 136 USPQ 184 (CCPA 1963)). The additional limitations of claim 3, 4, 5, 15, and

16 of the instant application are functionally equivalent to the additional limitations provided by claim 3, 4, 5, 13, and 14 of the copending application respectively, and thus are not patentably distinct.

Claim 6 of the copending application includes all of the limitations of claim 6 of the instant application, with the exception of the operation of claim 6 of the copending application being a first operation, and the operation of claim 6 of the instant application is a normal operation. It is obvious that these are not patentably distinct because the first operations occur in the first mode, which is before a triggering condition. It is interpreted that the system is operating in a normal mode of operation before the triggering condition, making the first operation functionally equivalent to the normal operation.

Claim 10 of the copending application includes all of the limitations of claim 12 of the instant application, with the exception of claim 10 of the copending application operating on a system domain, while claim 12 of the instant application operates on an affected signal path. It would have been obvious that the path is a subset of the system domain, and would obviously be included in any operations on the system domain. This would have been obvious because the system domain is interpreted as including all the aspects of the system that a signal travels through from the origin to the destination. These aspects would obviously include any path that is traveled. It would have been obvious that any operations on the system domain would have included the path that the information travels, and thus the two are not patentably distinct

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 13-15,17-22, and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al., United States Patent Application Publication number 2001/0056553, filed June 21, 2001.

As per claim 1, Suzuki discloses a method for dynamically reconfiguring a computing system that includes detecting a predetermined condition triggering a reconfiguration of the computing system (Suzuki, ¶15, where the predetermined condition is a failure) and dynamically reconfiguring a signal path affected by the condition from a first mode to a second mode responsive to detecting the condition (Suzuki, ¶16, where the routing table is used to reconfigure a signal path).

As per claim 2, Suzuki discloses that detecting the predetermined condition includes detecting a failure (Suzuki, ¶15).

As per claim 3, Suzuki discloses that the computing system includes at least one system control board and wherein detecting the failure includes detecting the failure from the system control board (Suzuki, ¶16, where the processor acts as a system control board to receive notification from the fault monitor).

As per claim 4, Suzuki discloses the computing system includes a plurality of system domains (a domain is interpreted as being functionally equivalent to the path, form initiating node to the outgoing line, through the system of Suzuki) and detecting the predetermined condition includes detecting the predetermined condition from one of the system domains (Suzuki, ¶15, where the fault monitor will notify of failures in an affected system domain).

As per claim 5, Suzuki discloses including at least one system control board and the method further comprises notifying the system control board of the error from an affected system domain (Suzuki, ¶16, where the processor acts as a system control board to receive notification from monitor of an affected system).

As per claim 6, Suzuki discloses detecting the failure includes detecting the failure during normal operations (Suzuki, ¶17, where the constant monitoring would include detecting failure during normal operation).

As per claim 7, Suzuki discloses configuring an I/O switch defining a first end of the affected signal path from the first to the second mode and configuring a crossbar switch electrically defining a second end of the affected signal path from the first mode to the second mode (Suzuki, ¶17, where the corrected routing of the switch is functionally equivalent to configuring a first and second end. The I/O switch corresponds to the input of the self routing switch and the crossbar switch corresponds to the self routing switch, which is functionally equivalent to a crossbar switch of this claim).

As per claim 8, Suzuki discloses defining a plurality of system domains between which the affected signal path runs (Suzuki, ¶16, where the fault indication cell works to define all

system domains which include the affected signal path, where a domain is interpreted as being functionally equivalent to the path, form initiating node to the outgoing line, through the system).

As per claim 9, Suzuki discloses that configuring the affected system domains includes: configuring a first switch in a first affected domain defining a first end of the affected signal path from the first to the second mode; and configuring a crossbar switch defining a second end of the affected signal path from the first mode to the second mode (Suzuki, ¶17, where the corrected routing of the switch is functionally equivalent to configuring a first and second end. The first switch corresponding to the input of the self routing switch and the crossbar switch corresponding to the self routing switch, which is functionally equivalent to a crossbar switch of this claim).

As per claim 10, Suzuki discloses that the computing system includes a system control board and configuring the affected system domains includes configuring the system domains from the system control board (Suzuki, ¶16, where each processor acts as a control board to configure the relevant system domain).

As per claim 11, Suzuki discloses operating the affected signal path in the first mode prior to reconfiguration; and operating the affected signal path in the second mode subsequent to the reconfiguration (Suzuki, ¶16, where the routing table reconfigures the signal path to the second mode).

As per claim 13, Suzuki discloses that the dynamically reconfiguring the signal path includes: disabling the affected signal path; reconfiguring the hardware elements of the disabled signal path from the first mode to the second mode; and re-enabling the signal path (Suzuki, ¶16, where the fault results in the disabling of the affected signal path through the reconfiguration that works around any faulty aspects of the device. The reconfiguration alters the routing information for the traffic through the system. The newly routed path works to re-enable the signal path, which is defined by the origin and destination, and not the intermediary routing steps).

As per claim 14, Suzuki discloses that the reconfiguring the hardware elements of the signal path includes: configuring a first switch defining a first end of the affected signal path from the first to the second mode; configuring a crossbar switch defining a second end of the affected signal path from the first mode to the second mode (Suzuki, ¶17, where the corrected routing of the switch is functionally equivalent to configuring a first and second end. The first switch corresponding to the input of the self routing switch and the crossbar switch corresponding to the self routing switch, which is functionally equivalent to a crossbar switch of this claim).

As per claim 15, Suzuki discloses dynamically reconfiguring the affected signal path includes dynamically reconfiguring the affected signal path from a normal mode to a degraded mode (Suzuki, ¶16, where transferring on an alternative path is degraded from transmitting on originally expected path, the path before failure).

As per claim 17, Suzuki discloses a computing system that includes a plurality of I/O switches (Suzuki, ¶16, where the plurality of inputs to the self routing switch act as I/O switches, with the routing table controlling the state of the switching), a crossbar switch (Suzuki, ¶16, where the self routing switch is functionally equivalent to a crossbar switch), a plurality of signal paths, each signal path being defined by one of the I/O switches and the crossbar switch, and a system controller capable of detecting a condition triggering a reconfiguration and dynamically reconfiguring at least one of the signal paths affected by the condition from a first mode to a second mode (Suzuki, ¶16, where the processor acts as the system controller to reconfigure an affected signal path, which includes an I/O switch and a crossbar switch).

As per claim 18, Suzuki discloses that the system controller is capable of detecting a failure (Suzuki, ¶15).

As per claim 19, Suzuki discloses that the computing system includes at least one system control board (Suzuki, ¶16, where the processor acts as a system control board).

As per claim 20, Suzuki discloses detecting the failure includes detecting the failure during normal operations (Suzuki, ¶17, where the constant monitoring would include detecting failure during normal operation).

As per claim 21, Suzuki discloses that the dynamically reconfiguring the signal path includes: configuring the I/O switch from the first to the second mode; configuring the crossbar switch from the first mode to the second mode (Suzuki, ¶17, where the corrected routing of the switch is functionally equivalent to configuring the I/O switch and the crossbar switch. The I/O switch corresponds to the input of the self routing switch, controlled by the routing table, and the

crossbar switch corresponds to the self routing switch, which is functionally equivalent to a crossbar switch of this claim, and is configured by the packet).

As per claim 22, Suzuki discloses a plurality of system domains between which the affected signal path runs (Suzuki, ¶16, where the fault indication cell works to define all system domains which include the affected signal path, where a domain is interpreted as being functionally equivalent to the path, form initiating node to the outgoing line, through the system).

As per claim 24, Suzuki discloses that dynamically reconfiguring the signal path includes: disabling the affected signal path; reconfiguring the hardware elements of the disabled signal path from the first mode to the second mode; re-enabling the signal path (Suzuki, ¶16, where the fault results in the disabling of the affected signal path through the reconfiguration that works around any faulty aspects of the device. The reconfiguration alters the routing information for the traffic through the system. The newly routed path works to re-enable the signal path, which is defined by the origin and destination, and not the intermediary routing steps); and repeating the previous three steps if a deadlock occurs (Suzuki, ¶16, any fault, including faults such as a deadlock, would cause the repetition of the above steps whenever detected).

As per claim 25, Suzuki discloses that reconfiguring the hardware elements of the signal path includes: configuring a first switch defining a first end of the signal path from the first to the second mode; and configuring a crossbar switch defining a second end of the signal path from the first mode to the second mode (Suzuki, ¶17, where the corrected routing of the switch is functionally equivalent to configuring a first and second end. The I/O switch corresponds to the

input of the self routing switch and the crossbar switch corresponds to the self routing switch, which is functionally equivalent to a crossbar switch of this claim).

As per claim 26, Suzuki discloses that dynamically reconfiguring a signal path affected by the condition from a first mode to a second mode includes dynamically reconfiguring the signal path affected condition from a normal mode to a degraded mode (Suzuki, ¶16, where transferring on an alternative path is degraded from transmitting on originally expected path, the path before failure).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 16 and 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.

As per claim 16, Suzuki discloses reconfiguring a signal path affected by a fault condition from a second mode to a first mode, where the second mode is a normal mode and the first mode is a degraded mode (Suzuki, ¶15, where the degraded mode is the alternate path, which differs from the original intended destination). Suzuki fails to disclose transferring back from this degraded mode to a normal mode when a condition is detected.

It is well known in the art of computing systems, to which this limitation pertains, to return operation from a degraded operating mode back into a normal operating mode when a

condition of "no fault" is detected. A well-known, illustrative example of returning from a degraded operating mode back into a normal operating mode is the boot operation of a standard personal computer. This boot operation is in a degraded mode if it must bypass a faulty hard drive and boot from a disk, when a fault is no longer detected in the hard drive of the example system, the boot operation returns to the normal mode of loading from a hard drive. This simplistic example illustrates that one of ordinary skill in the art relating to computer systems would have been motivated to return to a normal operating mode when a degraded operating mode is no longer necessary. The concept of returning to a normal operating mode from a degraded mode is well known in the art and applies to various aspects of computer system, such as a network switching system, when there is an obvious benefit to be gained. It would have been obvious to one skilled in the art to return the invention of Suzuki to a normal operating mode in the event that a fault is no longer detected in the original path.

This would have been obvious because it is well known in the computer arts that operation in normal mode is preferred to operation in degraded mode. Since the invention of Suzuki must change the destination address of incoming packets when operating in degraded mode as a result of a card fault (Suzuki, ¶13-16), it would be beneficial to return to a normal operating mode, in which the added step of changing the address is unnecessary. The invention of Suzuki would have obviously benefited by returning to normal operating mode from a degraded mode in the event of a fault no longer existing.

As per claim 27, Suzuki discloses reconfiguring a signal path affected by a fault condition from a second mode to a first mode, where the second mode is a normal mode and the first mode is a degraded mode (Suzuki, ¶15, where the degraded mode is the alternate path, which differs from the original intended destination). Suzuki fails to disclose transferring back from this degraded mode to a normal mode when a condition is detected.

It is well known in the art of computing systems, to which this limitation pertains, to return operation from a degraded operating mode back into a normal operating mode when a condition of "no fault" is detected. A well-known, illustrative example of returning from a degraded operating mode back into a normal operating mode is the boot operation of a standard personal computer. This boot operation is in a degraded mode if it must bypass a faulty hard drive and boot from a disk, when a fault is no longer detected in the hard drive of the example system, the boot operation returns to the normal mode of loading from a hard drive. This simplistic example illustrates that one of ordinary skill in the art relating to computer systems would have been motivated to return to a normal operating mode when a degraded operating mode is no longer necessary. The concept of returning to a normal operating mode from a degraded mode is well known in the art and applies to various aspects of computer system, such as a network switching system, when there is an obvious benefit to be gained. It would have been obvious to one skilled in the art to return the invention of Suzuki to a normal operating mode in the event that a fault is no longer detected in the original path.

This would have been obvious because it is well known in the computer arts that operation in normal mode is preferred to operation in degraded mode. Since the invention of Suzuki must change the destination address of incoming packets when operating in degraded

mode as a result of a card fault (Suzuki, ¶13-16), it would be beneficial to return to a normal operating mode, in which the added step of changing the address is unnecessary. The invention of Suzuki would have obviously benefited by returning to normal operating mode from a degraded mode in the event of a fault no longer existing.

Allowable Subject Matter

Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is provided on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua A Lohn whose telephone number is (703) 305-3188. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoleil can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAL

SCOTT BADERMAN
PRIMARY EXAMINER